

C. Remarks

1. Status of the Specification and Claims

Claims 1-18 are pending in the application. The examiner has rejected claim 1 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,009,219 to Doyle. The examiner has rejected claims 1-18 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,137,933 to Hunter.

The examiner has objected to the application based on certain formalities and has required correction. The examiner has noted that the drawings are informal, and he has stated that formal drawings will be required when the application is allowed.

2. Doyle Does Not Anticipate Claim 1.

Applicants respectfully submit that the Doyle reference does not anticipate claim 1 at least because Doyle does not disclose first and second collimators connected, either directly or through an intervening member, to a prism. Instead, Doyle's first and second lenses 45 and 55 are separate and apart from the corresponding retroreflective element, namely, retroreflective element 120, as shown in FIG. 3, or retroreflective element 220, as shown in FIG. 5. Indeed, the optical switching mechanism disclosed by Doyle would be inoperable if the lenses were connected to the corresponding retroreflective element because the retroreflective element then could not be rotated independently from the lenses to allow signal switching between a single second optical channel 50 and a plurality of first optical channels 40. In light of the foregoing, Applicants respectfully request that the examiner withdraw this basis for rejection.

3. Claims 1-18 Are Patentable Over Hunter.

Based on context, Applicants understand the paragraph beginning at the bottom of page 3 of the Office Action to be directed to Applicants' claim 1. Therein, the examiner has stated that "it is obvious from the figures to a person having ordinary skill in the art that the entire device in Fig. 2 and described in the [Hunter] disclosure comprises the functionality of the claimed invention of Applicant" and that the homogenous index boot lenses, collimating lenses, and prism region of Hunter "together form to comprise a united material with the same aligning functionality of a substrate."

Applicants respectfully traverse the foregoing basis for rejection. As a preliminary matter, Applicants do not claim the function of alignment, as the examiner has suggested. Rather, Applicants claim an optical U-turn apparatus having certain recited structure, including a substrate securing certain ones of the apparatus' elements in optical alignment, and a method of making such an apparatus. The foregoing basis for rejection fails for this reason alone.

Further, Applicants submit that the examiner has not made a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met.

First there must be some suggestion or motivation, either in the references cited or in the knowledge generally available to one skilled in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on the applicant's disclosure.

MPEP § 706.02(j). Applicants respectfully submit that at least the first and third prongs of the foregoing test have not been met in this case. Hunter does not teach or suggest the limitation of a substrate whatsoever. Instead, Hunter appears to use the inherent physical attributes of certain optical components of his assembly to facilitate the assembly thereof. *See, e.g.*, col. 3, ll. 48-50, where Hunter states that "the homogeneous index boot lenses provide large planar surfaces for device assembly, alignment and the integration of additional device functions." Thus, the Hunter device does not require, and the foregoing disclosure does not suggest or teach, a separate substrate for assembly and alignment of its optical components. Indeed, Hunter teaches away from such use of a substrate. Thus one skilled in the art would not find it obvious to modify the Hunter device by adding to it a substrate, even if it were known in the art to use a substrate for to facilitate assembly of components. As such, Applicants respectfully request the examiner withdraw this basis for rejection.

With respect to claims 2-4 and 7, the examiner has stated that "the use of a different range of substrates, substrate process and prism formations, although not explicitly taught, does not improve upon the overall scope of the invention of Hunter et al. '933." As discussed above, Hunter does not teach or suggest use of a substrate for component alignment and, in fact,

teaches away from such use of a substrate. Thus, these claims cannot be obvious in view of Hunter and the general level of knowledge in the art. As such, Applicants respectfully request the examiner withdraw this basis for rejection.

Regarding method claims 8 and 10, the examiner has stated that the method limitations would be inherently included in the Hunter device. Applicants respectfully traverse this basis for rejection at least because the Hunter device does not include the substrate recited in these claims and because it would not be obvious to modify Hunter to include such a substrate. As such, Applicants respectfully request that the examiner withdraw this basis for rejection.

Regarding claims 12, 14, and 18, the examiner has stated that “the use of coreless (air) regions for optical coupling in retro-reflecting regions is well known in the art, and that forming the prism 18 of Hunter et al. ‘933 by use of hollow or coreless material (two mirrors) would have been obvious to a person having ordinary skill in the art.” Importantly, Applicants have not claimed “coreless regions for optical coupling in retro-reflecting regions.” Instead, claim 12 recites the step of “forming said first and second lengths of coreless optical fiber into a prism,” claim 14 recites “said prism being formed from at least one section of coreless optical fiber,” and claim 18 recites “forming said length of coreless optical fiber into a prism.” Applicants respectfully submit that forming a prism from one or more lengths or sections of coreless optical fiber is not taught by Hunter and would not have been obvious to one skilled in the art. The only art the examiner has cited which teaches such use of coreless fiber is the present application. Using Applicants’ disclosure in this manner is impermissible hindsight.

Regarding claims 5-6, 9, 11, and 13, these claims depend from allowable base claims and, therefore, these dependent claims are allowable.

Applicants have canceled claims 15-17 without prejudice.

### 3. New Claims

Applicants have added new claims 19-40 to further define the invention. Applicants respectfully submit that these claims are supported by the specification and drawings as filed, and that new matter has not been added.

4. Specification and Drawing Informalities

The foregoing amendment to specification fully addresses the examiner's objection thereto. The examiner has indicated that the informal drawings filed with the application are acceptable for examination purposes. Accordingly, Applicants elect not to file formal drawings at this time.

5. Summary and Conclusion

Applicants respectfully submit that this paper is fully responsive to the rejections and objections set forth in the Office Action and that the application is in condition for allowance. Accordingly, Applicants respectfully request reconsideration thereof and timely issue of a Notice of Allowance.

Respectfully submitted,



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